

5 Installation



CAUTION

Failure to lift the converter in the correct manner can result in bodily injury and/or property damage.

The converter must be lifted using suitable equipment and under the instruction of appropriately qualified personnel.

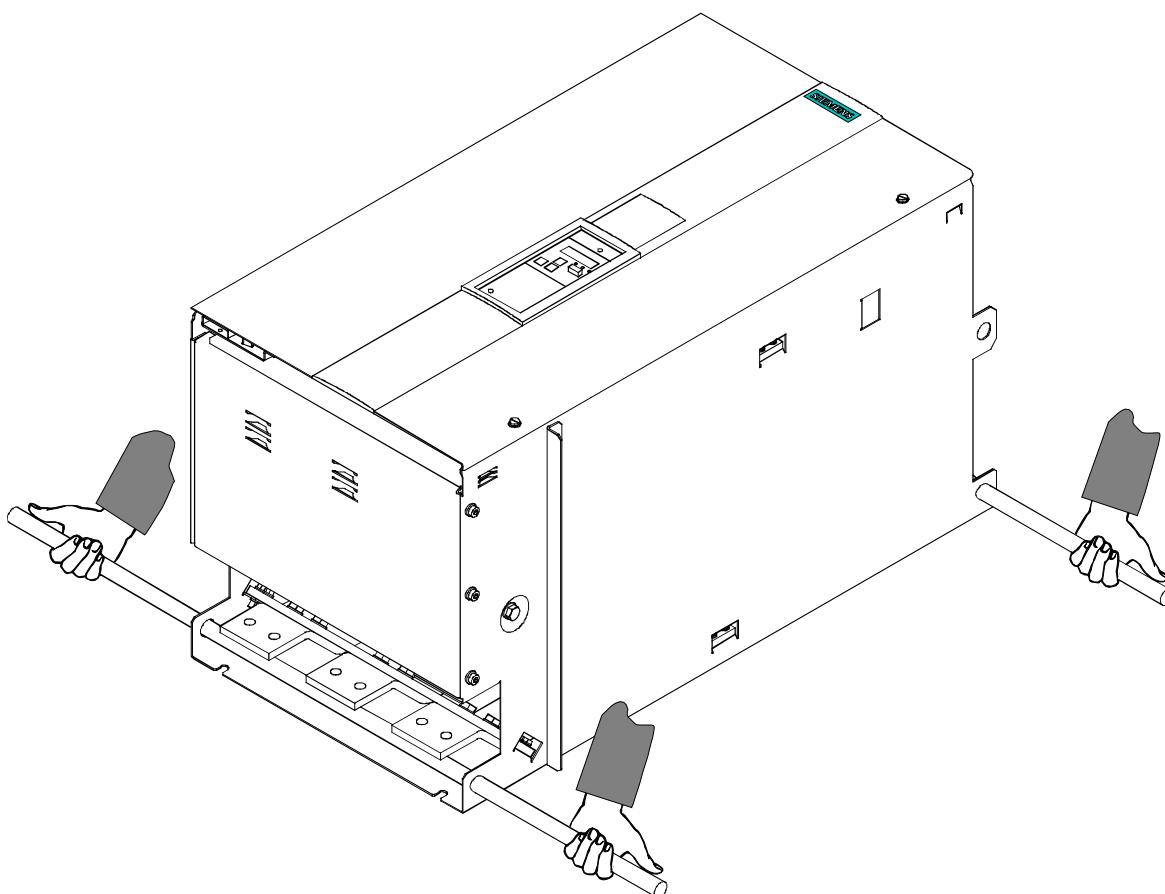
To preclude the risk of deformation damage to the housings of converters with rated DC current of 720A or higher, the lifting lugs used to raise them must not be subjected to any horizontal forces.

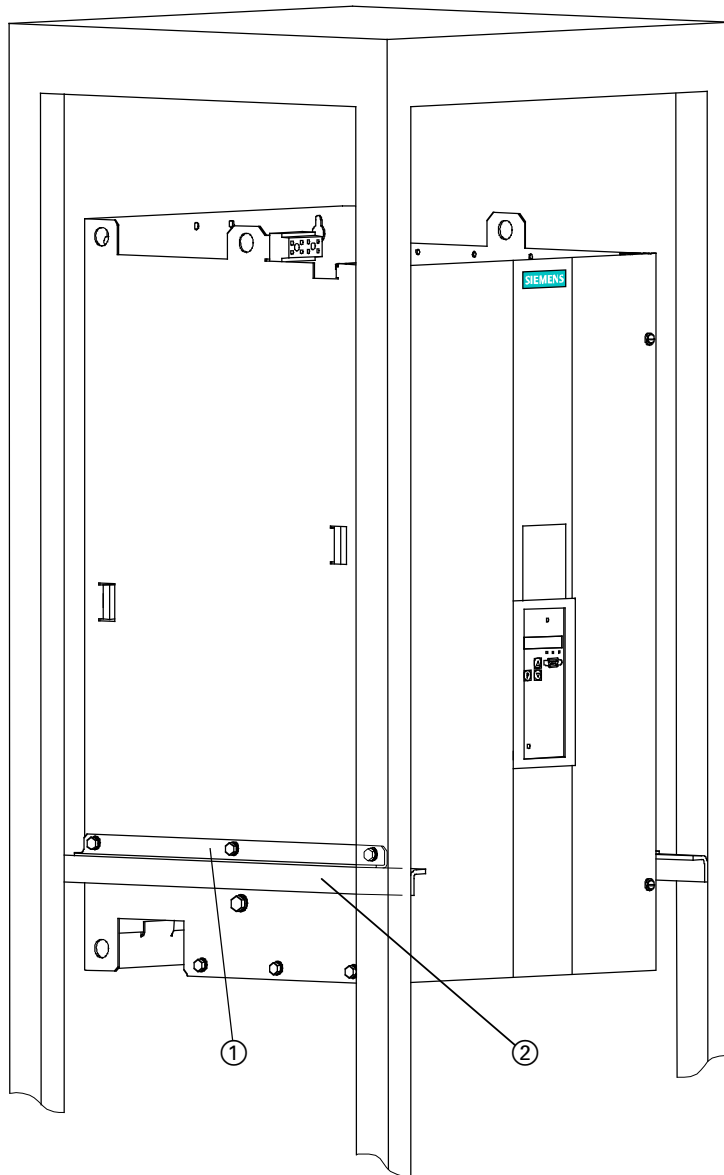


The user is responsible for installing the converter, motor, transformer as well as other equipment according to safety regulations (e.g. DIN, VDE), as well as all other relevant national or local regulations regarding cable dimensioning and protection, grounding, isolating switch, overcurrent protection, etc.

The converter must be installed in accordance with the relevant safety regulations (e.g. DIN, VDE), as well as all other relevant national and local regulations. It must be ensured that the grounding, cable dimensioning and appropriate short-circuit protection have been implemented to guarantee operational safety and reliability.

Possible lifting method for converters with rated DC current of 1500A to 2000A



Cubicle mounting of converters with rated DC current of 1500A to 2000A

- These converters are supplied with 2 fixing angles ①. These can be bolted to the SIMOREG unit by means of the supplied M6 hexagon-head screws (3 per angle) to assist cubicle mounting.
- The unit can then be supported by 2 further angles ② (not included in scope of supply) in the control cubicle.
- The converters must be bolted to the cubicle rear panel in 4 places.

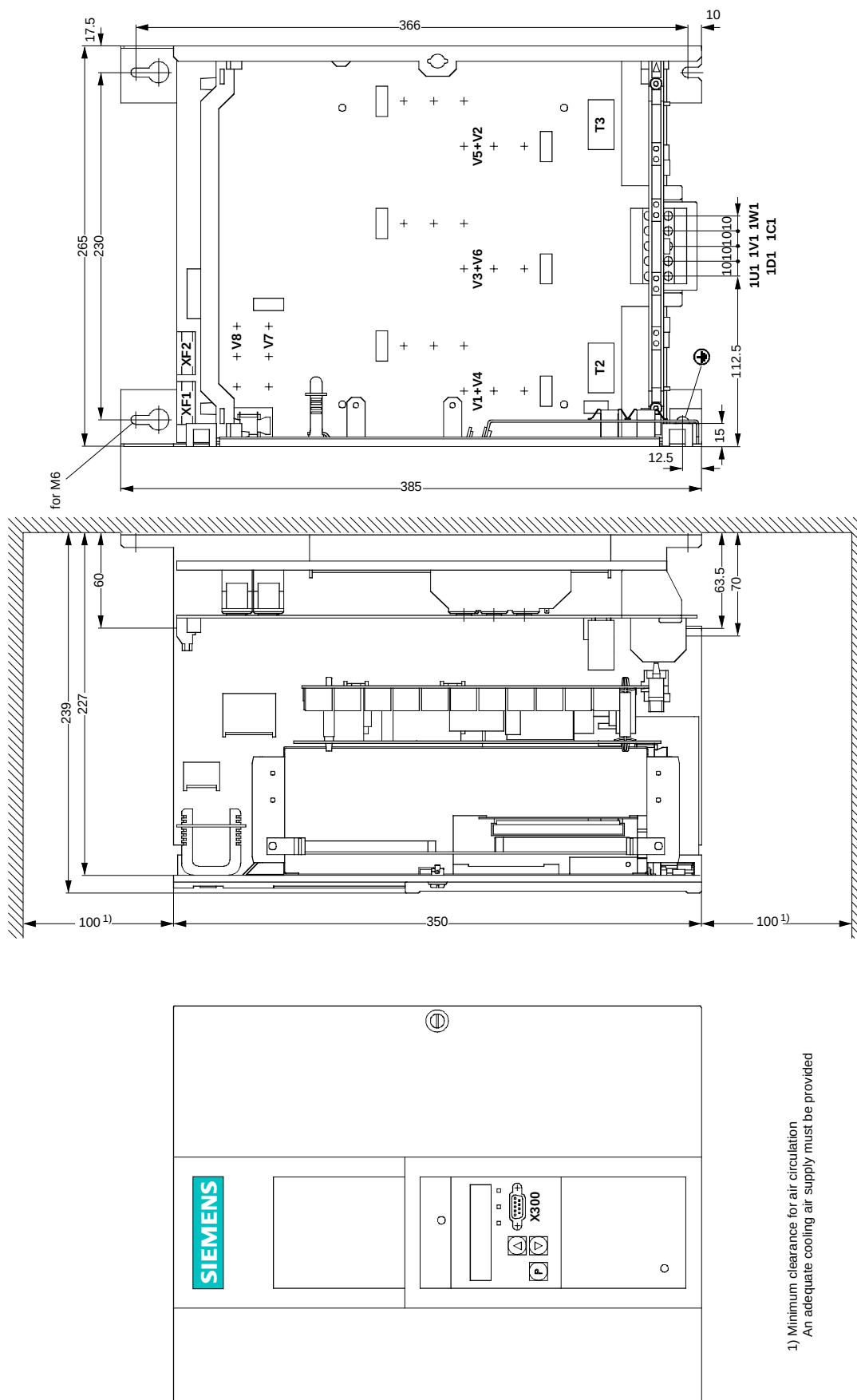
**WARNING**

A clearance of at least 100 mm must be left above and below the converter in order to ensure an unrestricted cooling air intake and outlet.

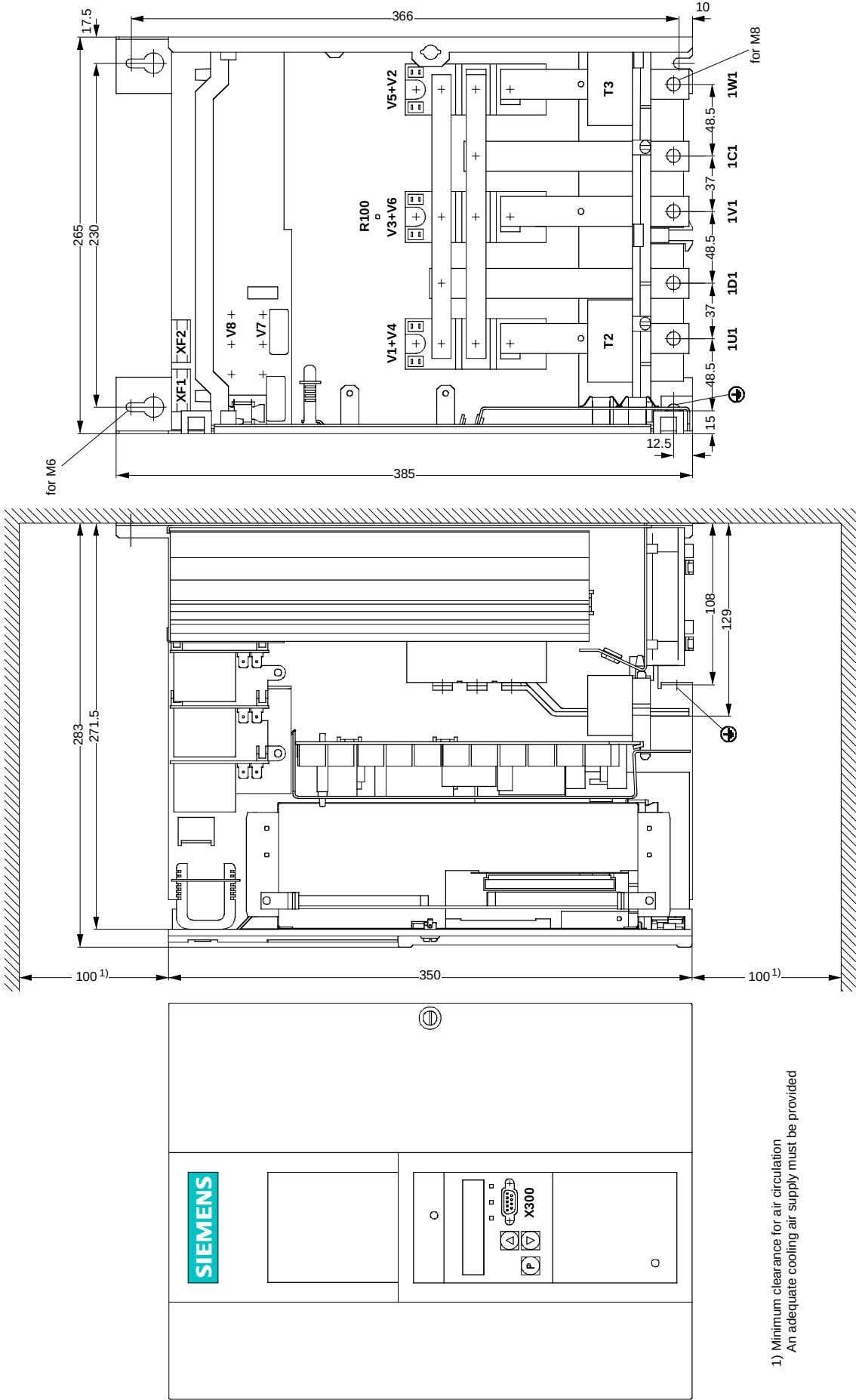
The converter may overheat if this clearance is not provided!

5.1 Dimension diagrams for standard devices

5.1.1 Converters: 30A, 1Q

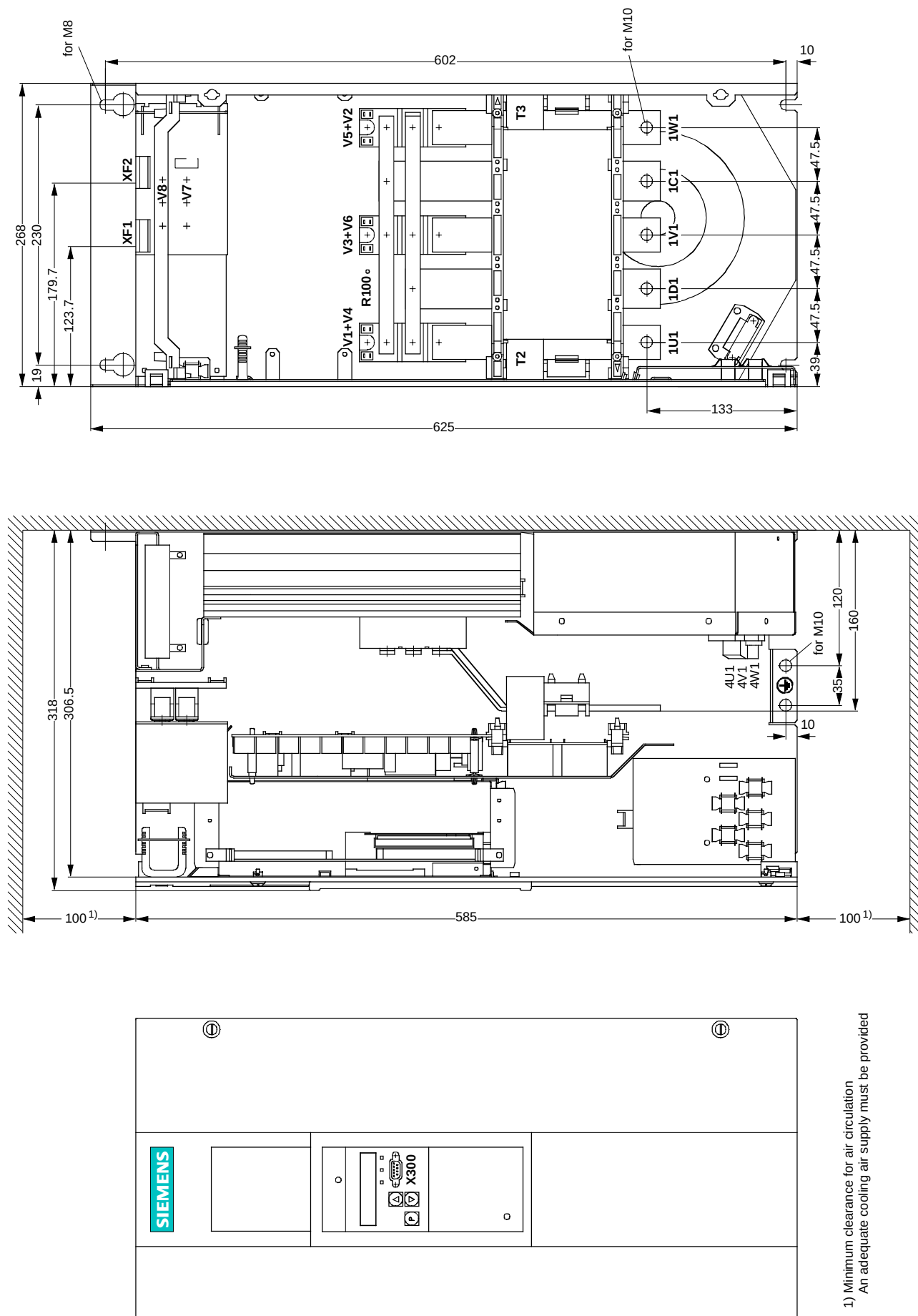


5.1.2 Converters: 60A to 280A, 1Q

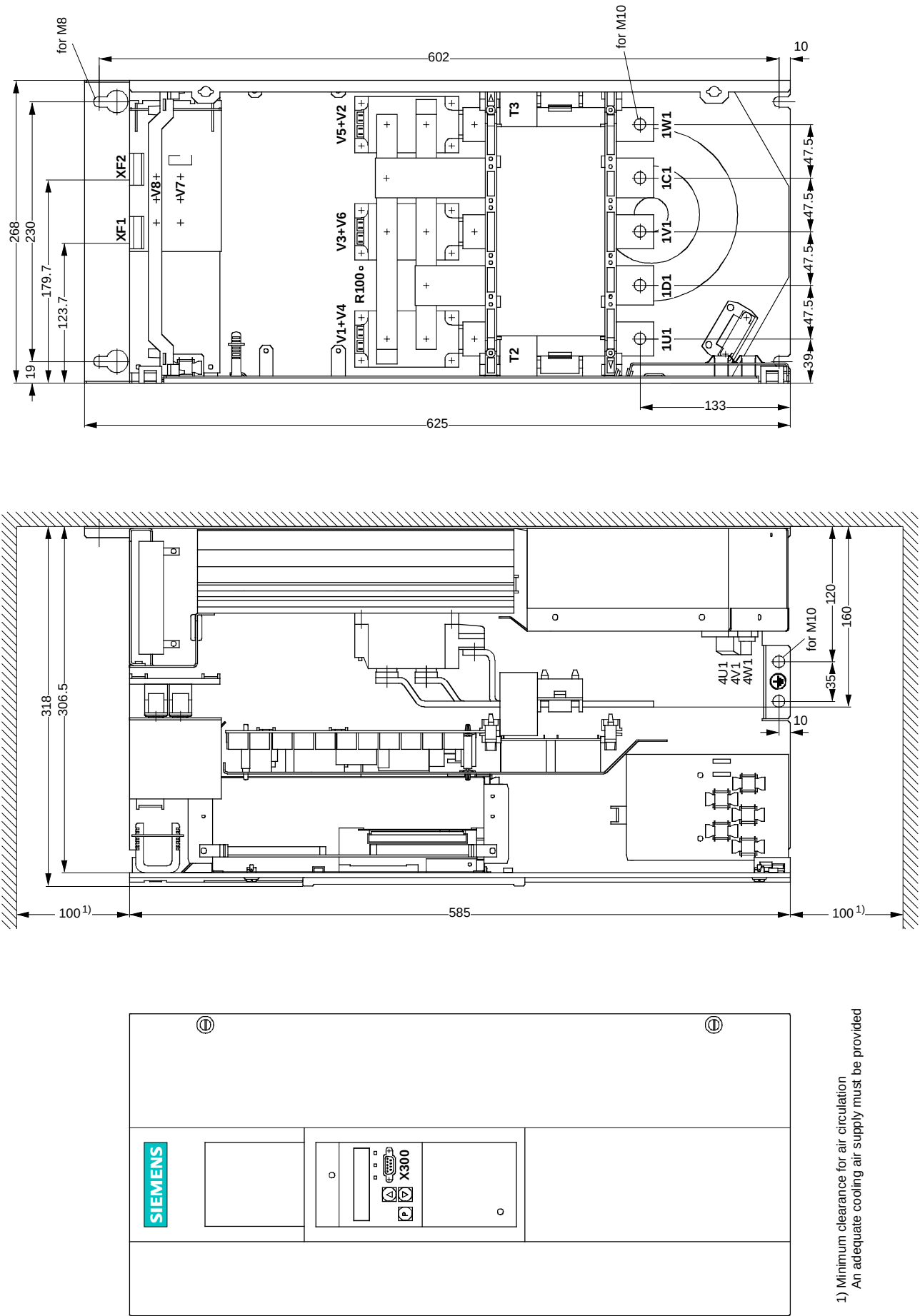


1) Minimum clearance for air circulation
An adequate cooling air supply must be provided

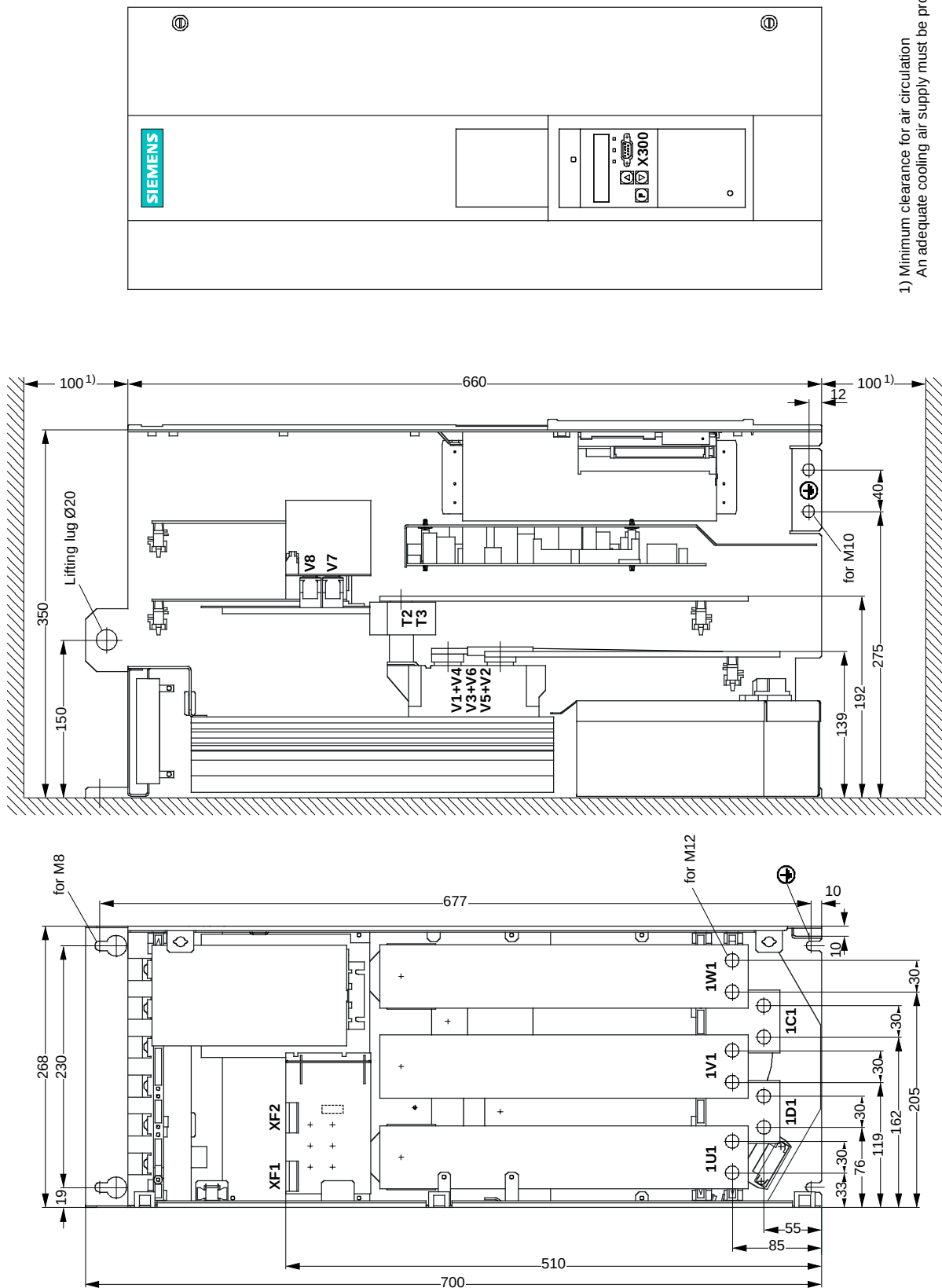
5.1.3 Converters: 400A, 1Q



5.1.4 Converters: 600A, 1Q

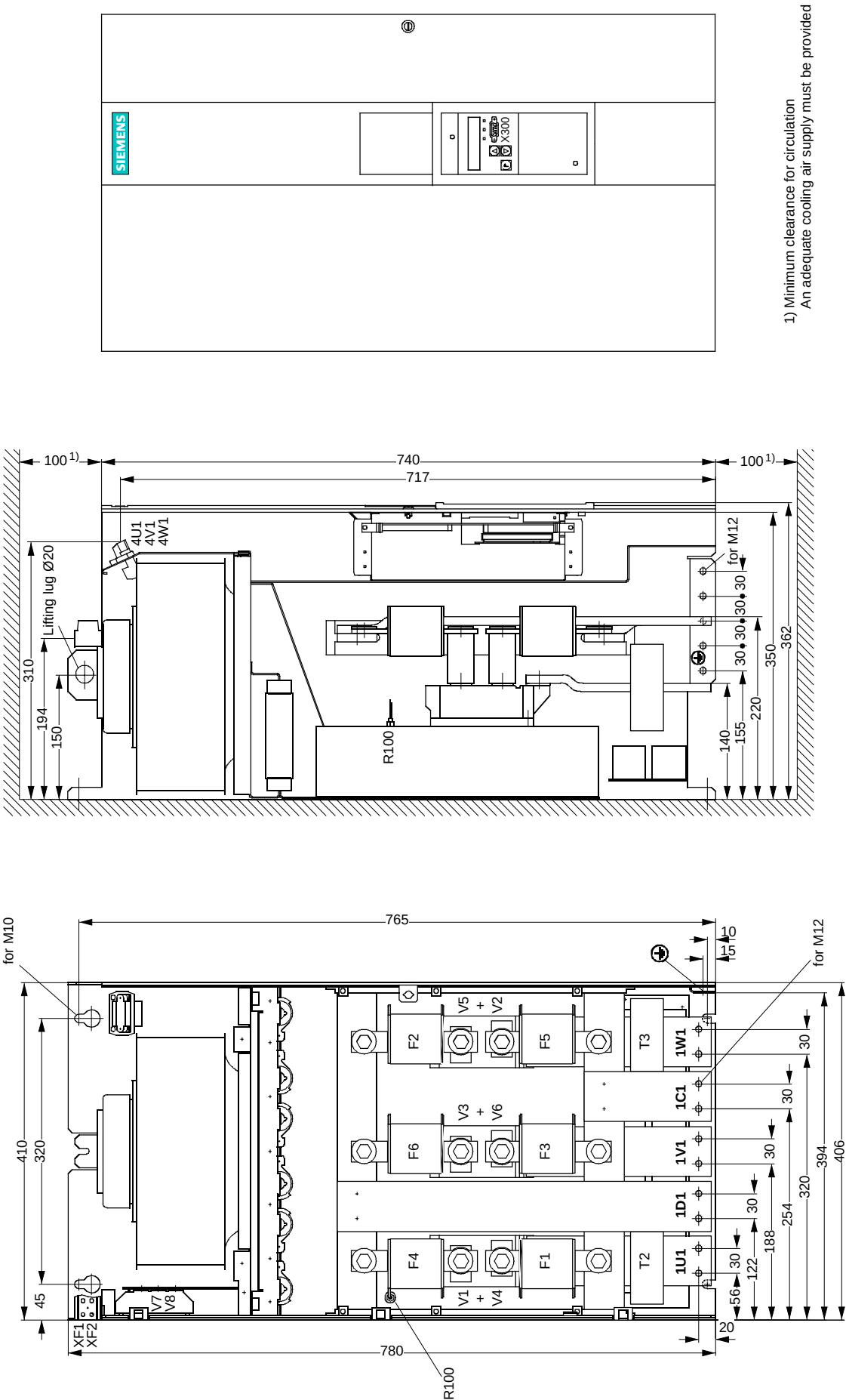


5.1.5 Converters: 720A to 850A, 1Q



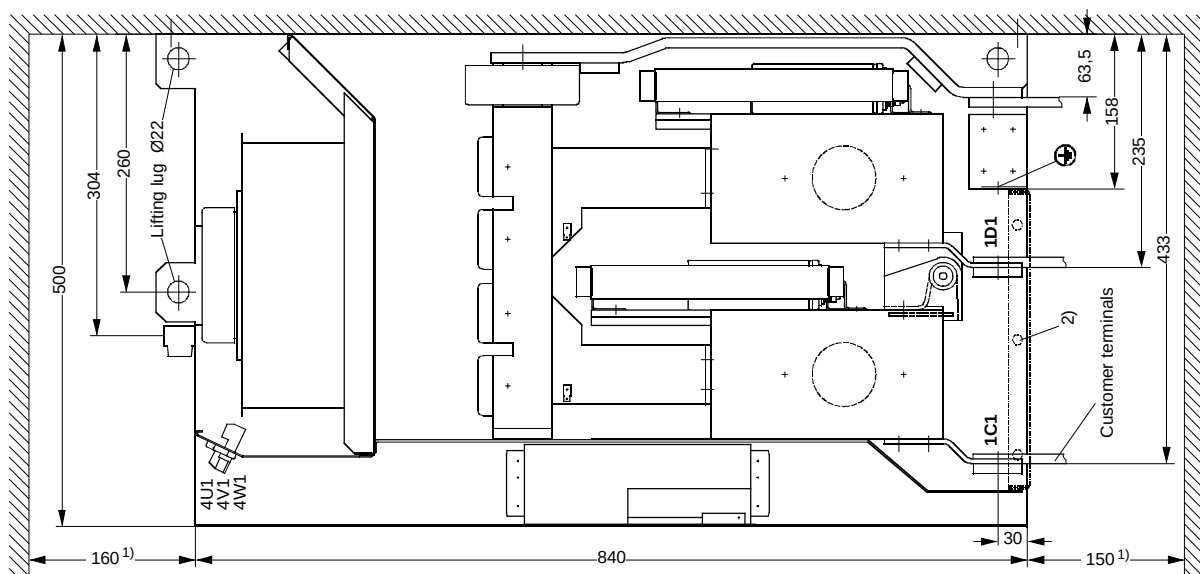
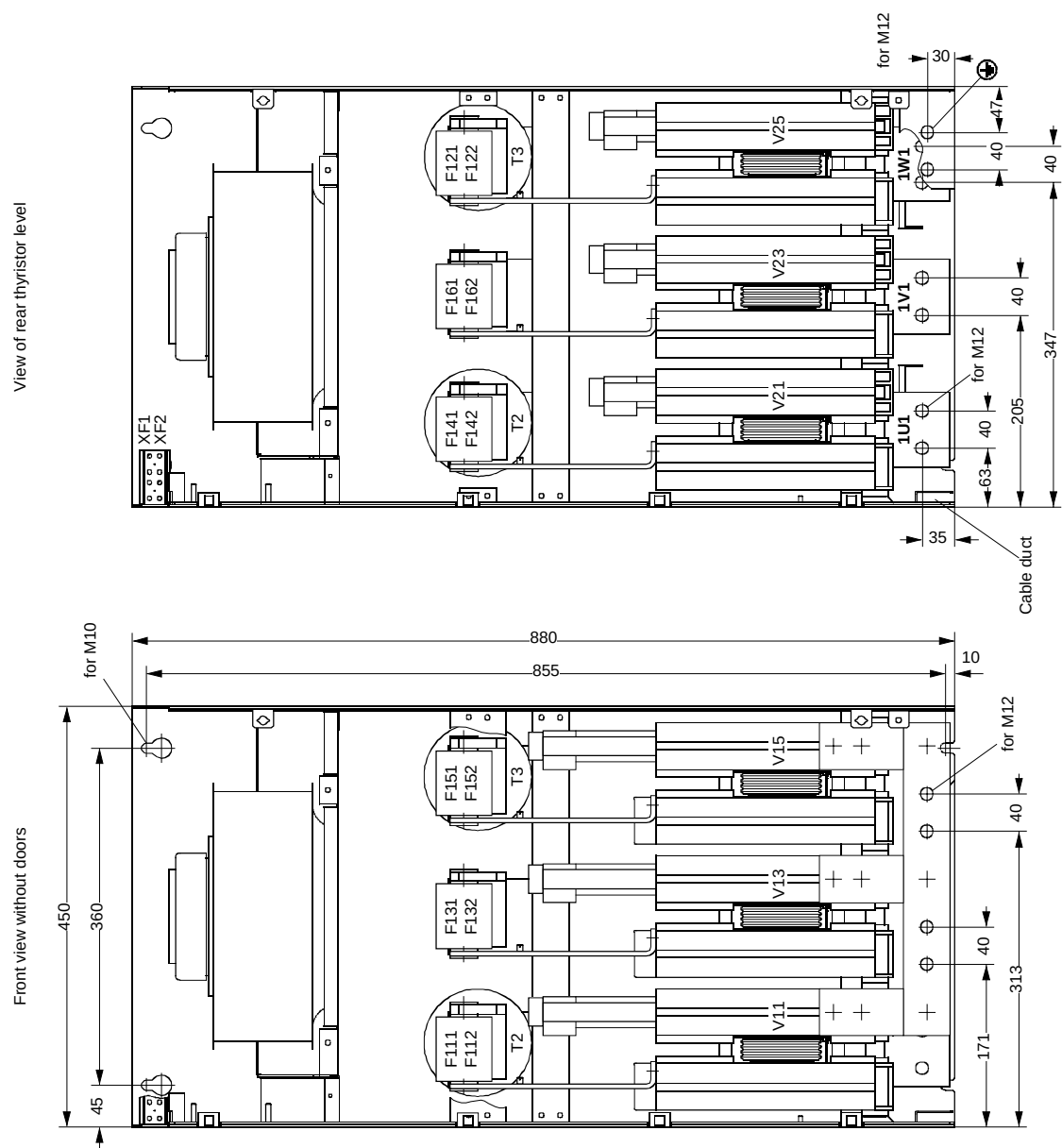
1) Minimum clearance for air circulation
An adequate cooling air supply must be provided

5.1.6 Converters: 900A to 1200A, 1Q

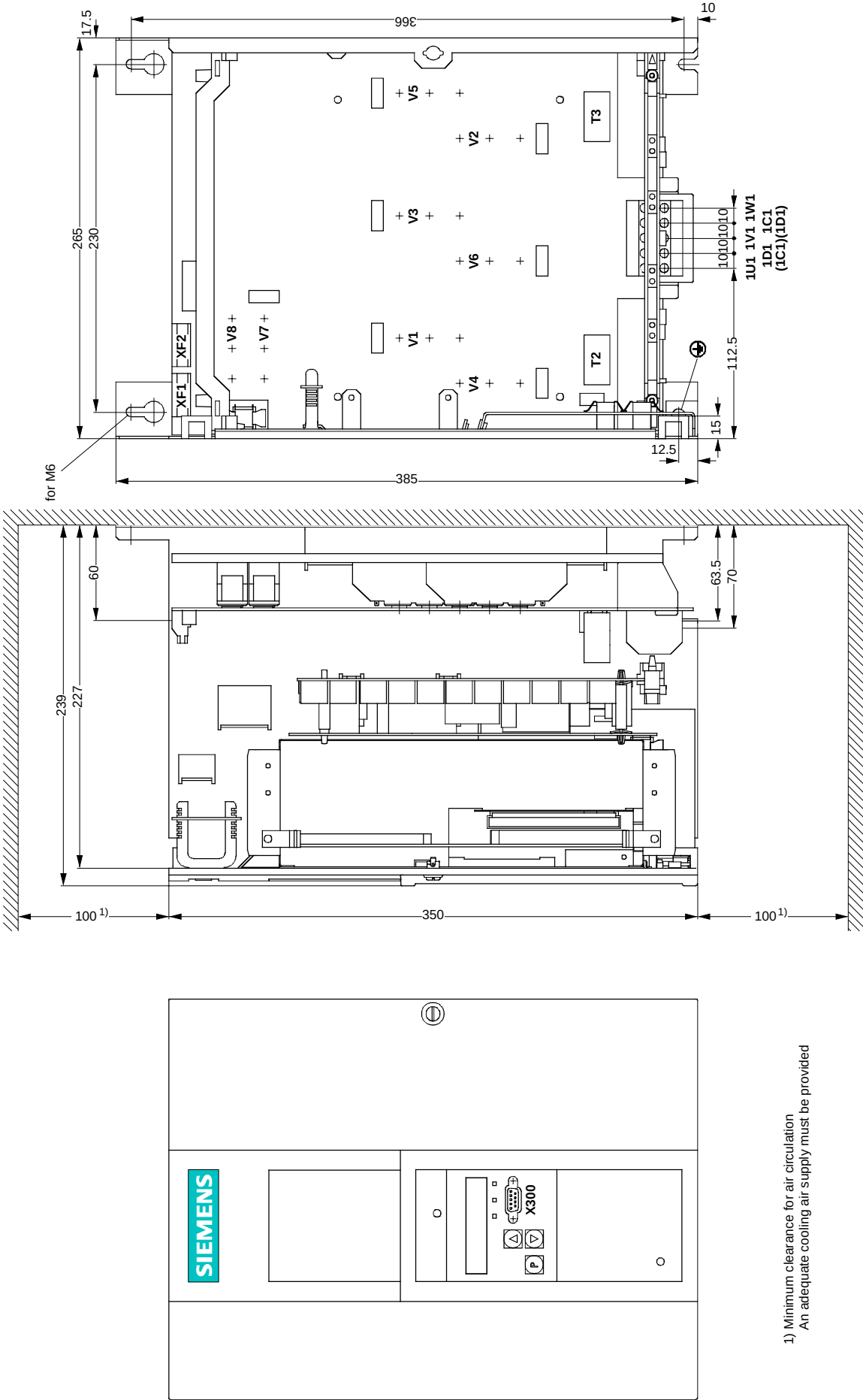


1) Minimum clearance for circulation
An adequate cooling air supply must be provided

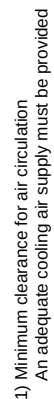
5.1.7 Converters: 1500A to 2000A, 1Q



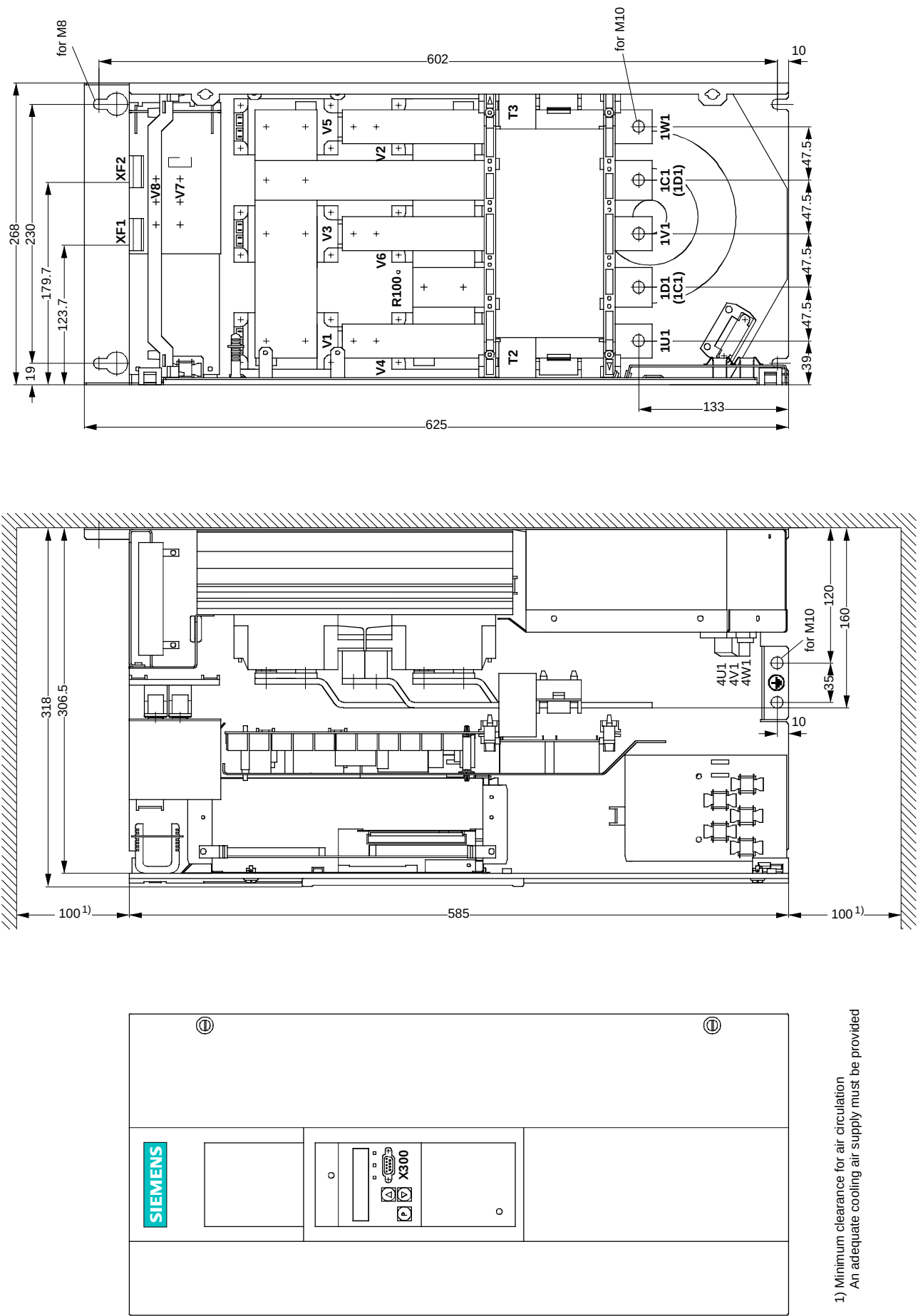
5.1.8 Converters: 15A to 30A, 4Q



Siemens AG 6RX1700-0AD76
SIMOREG DC Master Operating Instructions

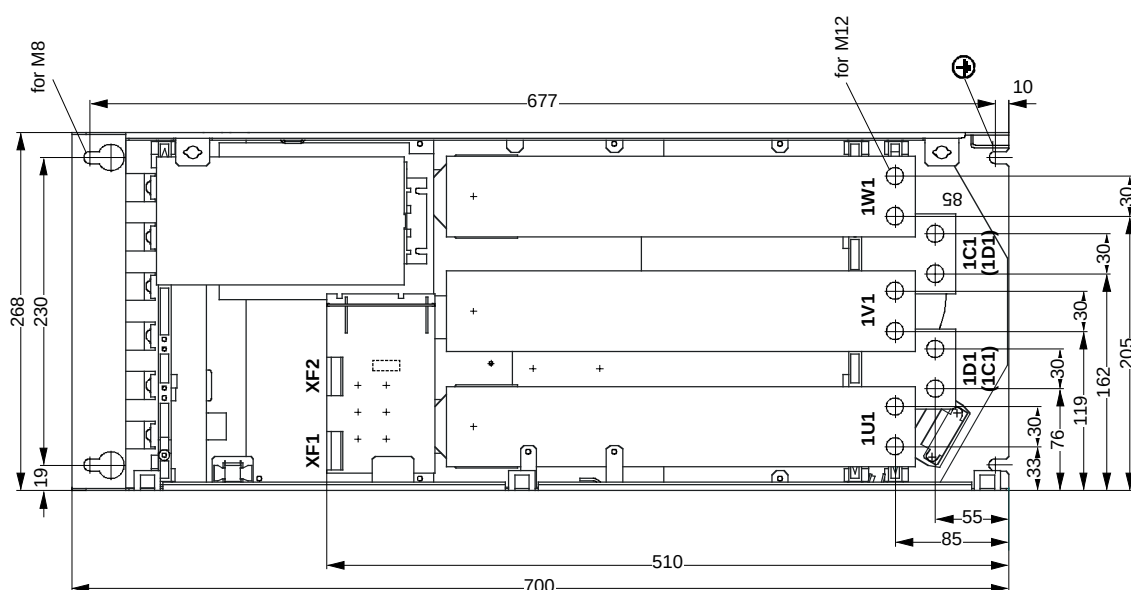
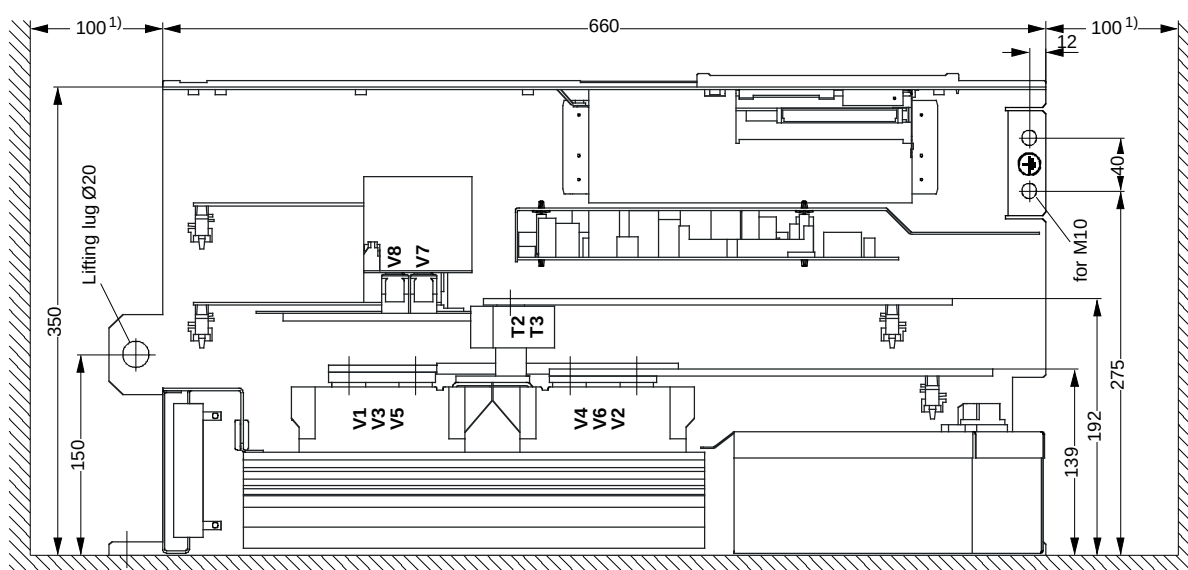


5.1.10 Converters: 400A to 600A, 4Q

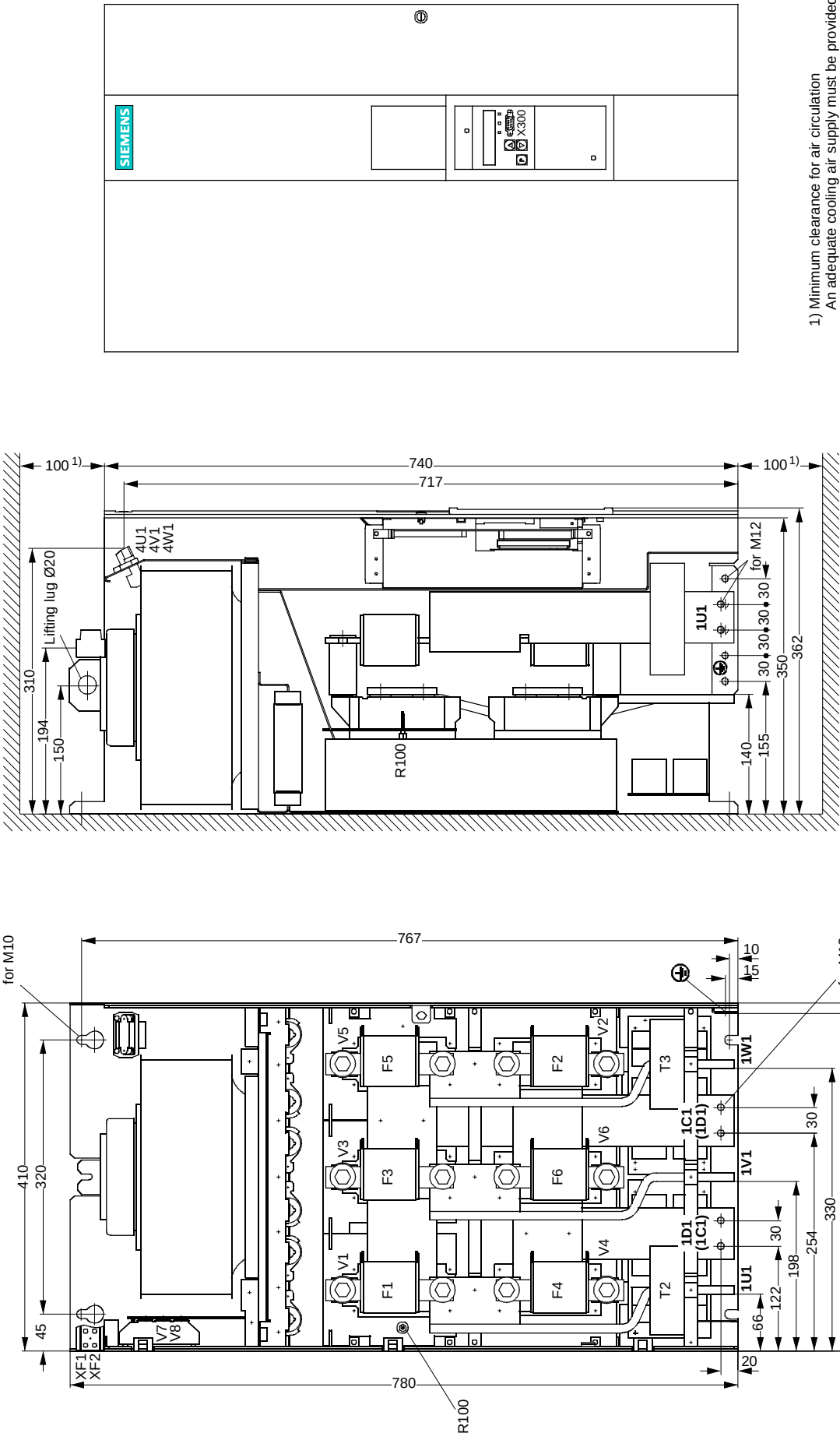


The technical drawing shows the Siemens X300 control unit from two perspectives. The top view is a front elevation showing a rectangular unit with a control panel on the left and a display area on the right. The control panel includes a small square indicator light, a large rectangular display screen, and a row of five function buttons labeled with icons: a square with a dot, a square with a circle, a square with a triangle, a square with a circle, and a square with a circle. The display area shows the text 'X300' and a small circular indicator light. The bottom view is a side elevation showing the unit's profile, which is a simple rectangle.

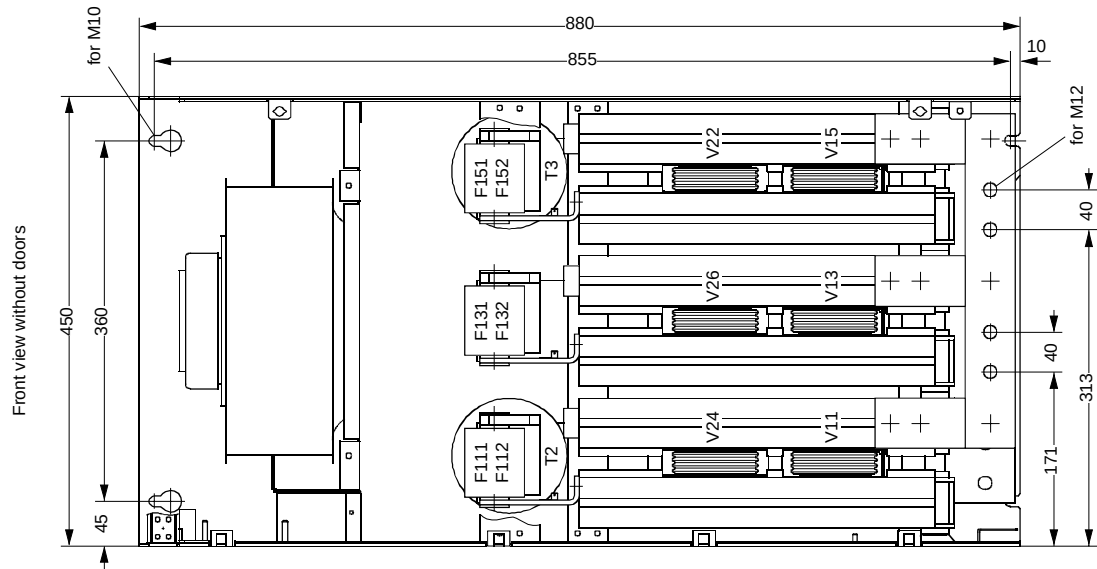
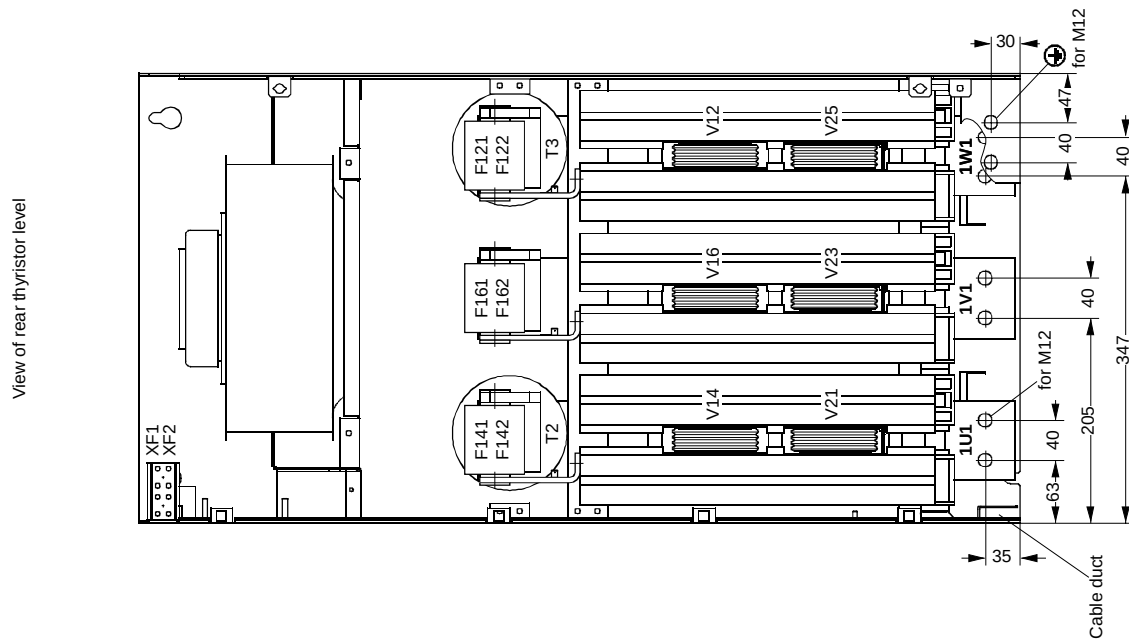
1) Minimum clearance for air circulation
An adequate cooling air supply must be provided



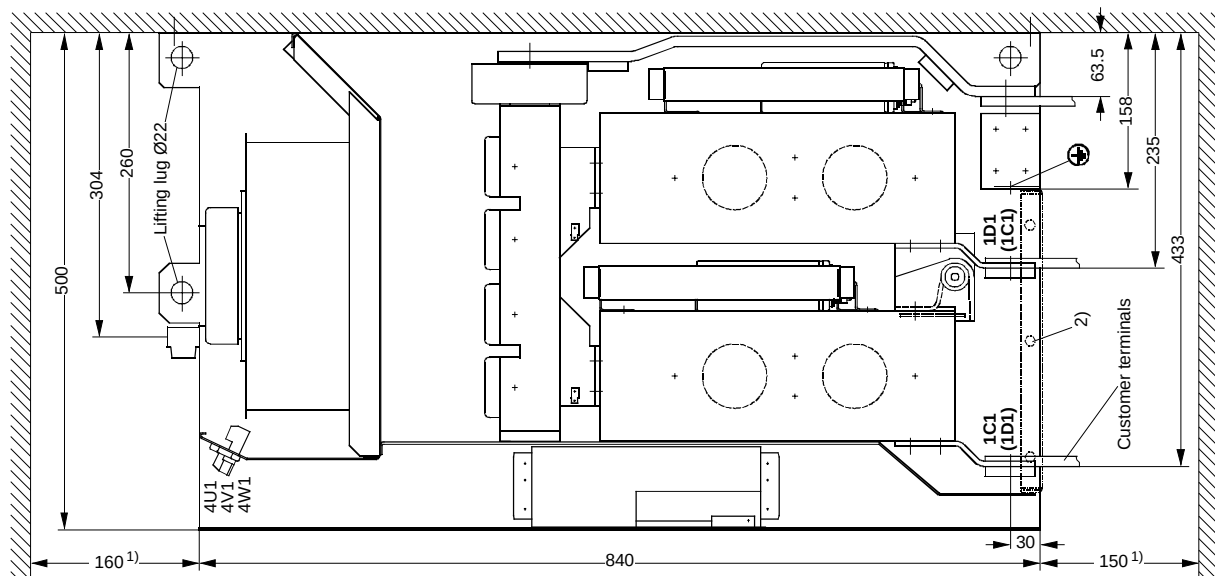
5.1.12 Converters: 950A to 1200A, 4Q



5.1.13 Converters: 1500A to 2000A, 4Q

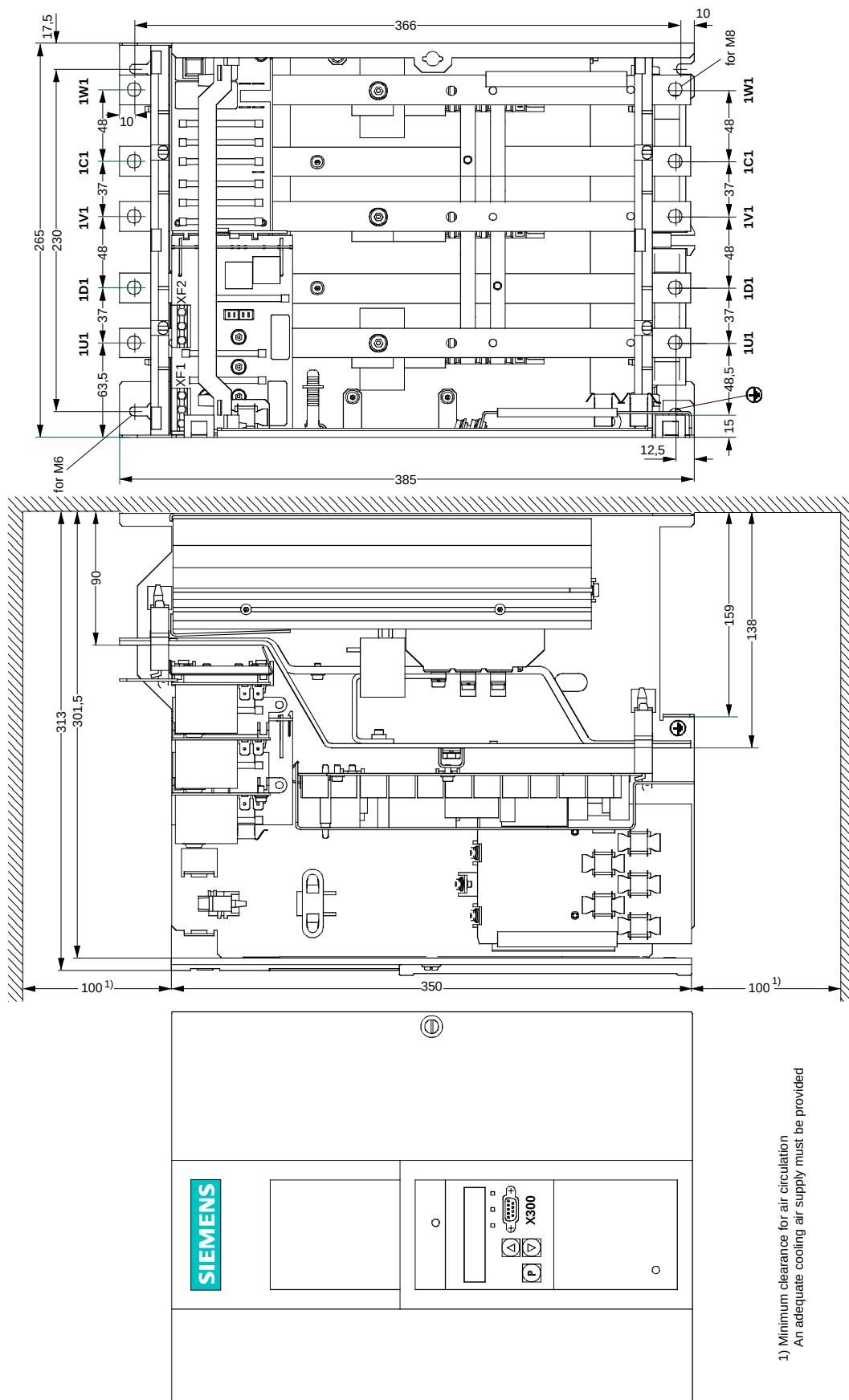


- 1) Minimum clearance for air circulation
An adequate cooling air supply must be provided
- 2) Transportblech durch lösen von 6 Sechskantschrauben M6
vor Inbetriebnahme entfernen!

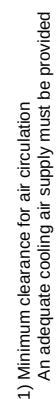


5.2 Dimension diagrams of the devices with additional cable connections on the top of the device

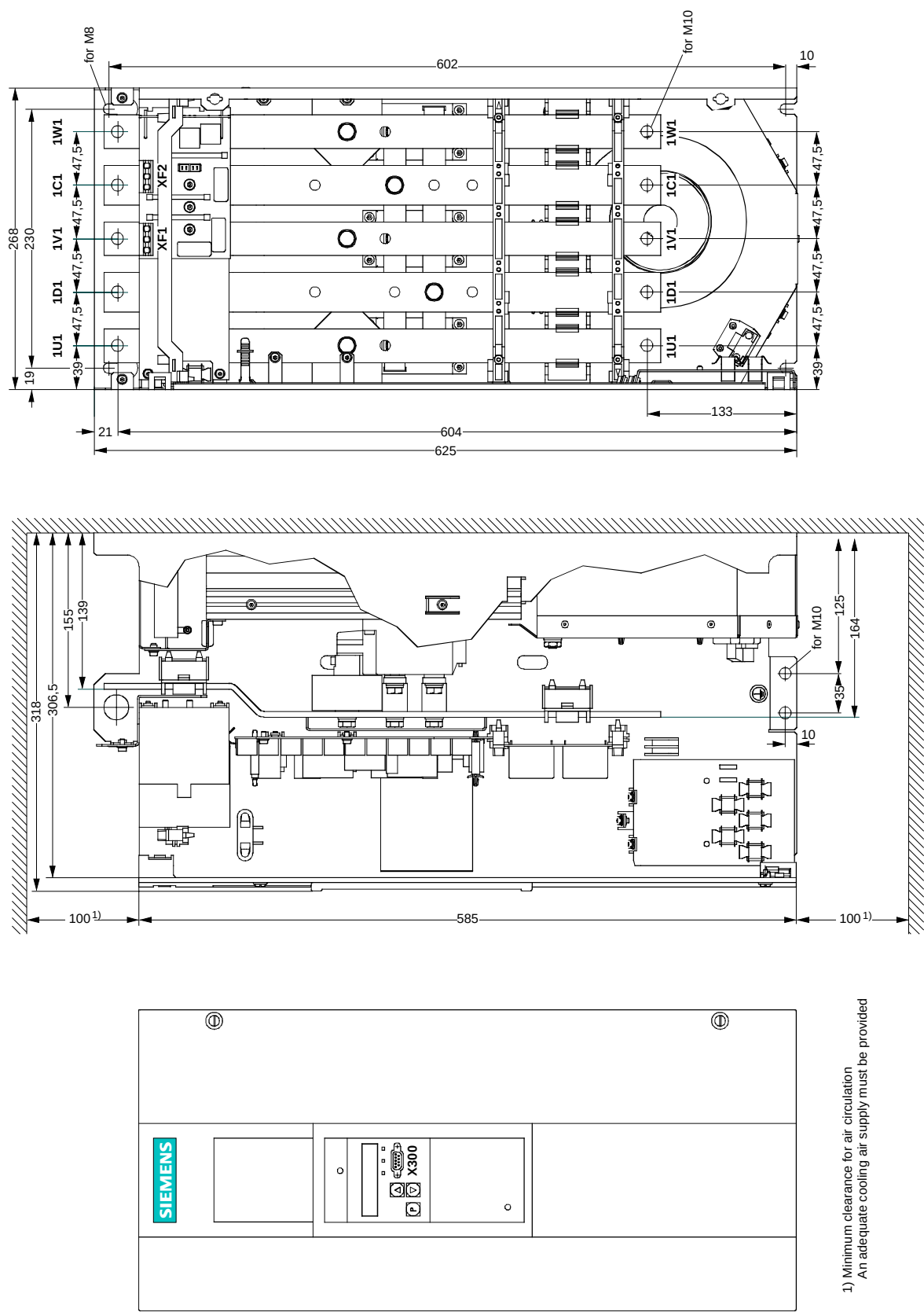
5.2.1 Converters: 60A to 125A, 1Q



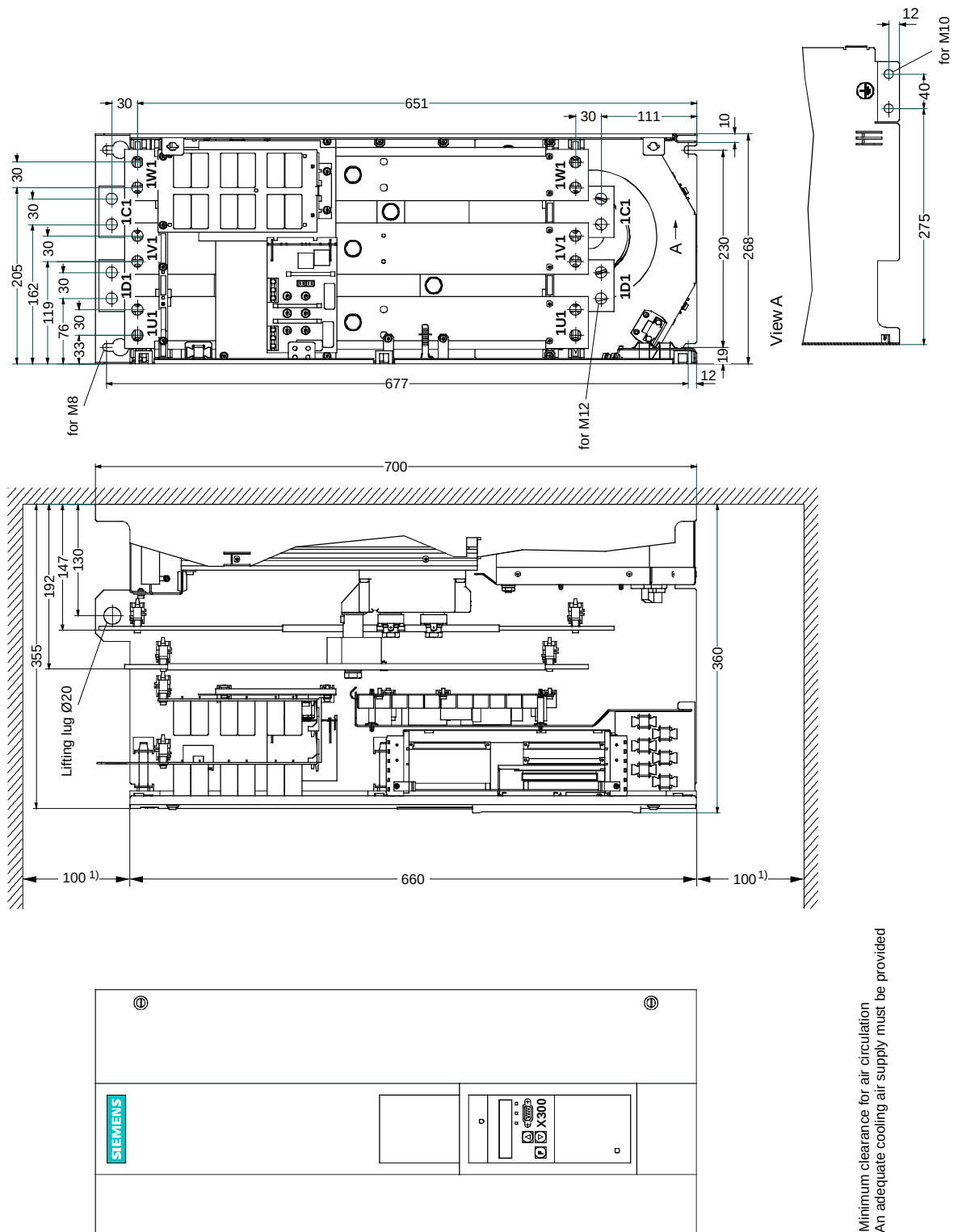
5.2.2 Converters: 210A to 280A, 1Q



5.2.3 Converters: 450A to 600A, 1Q

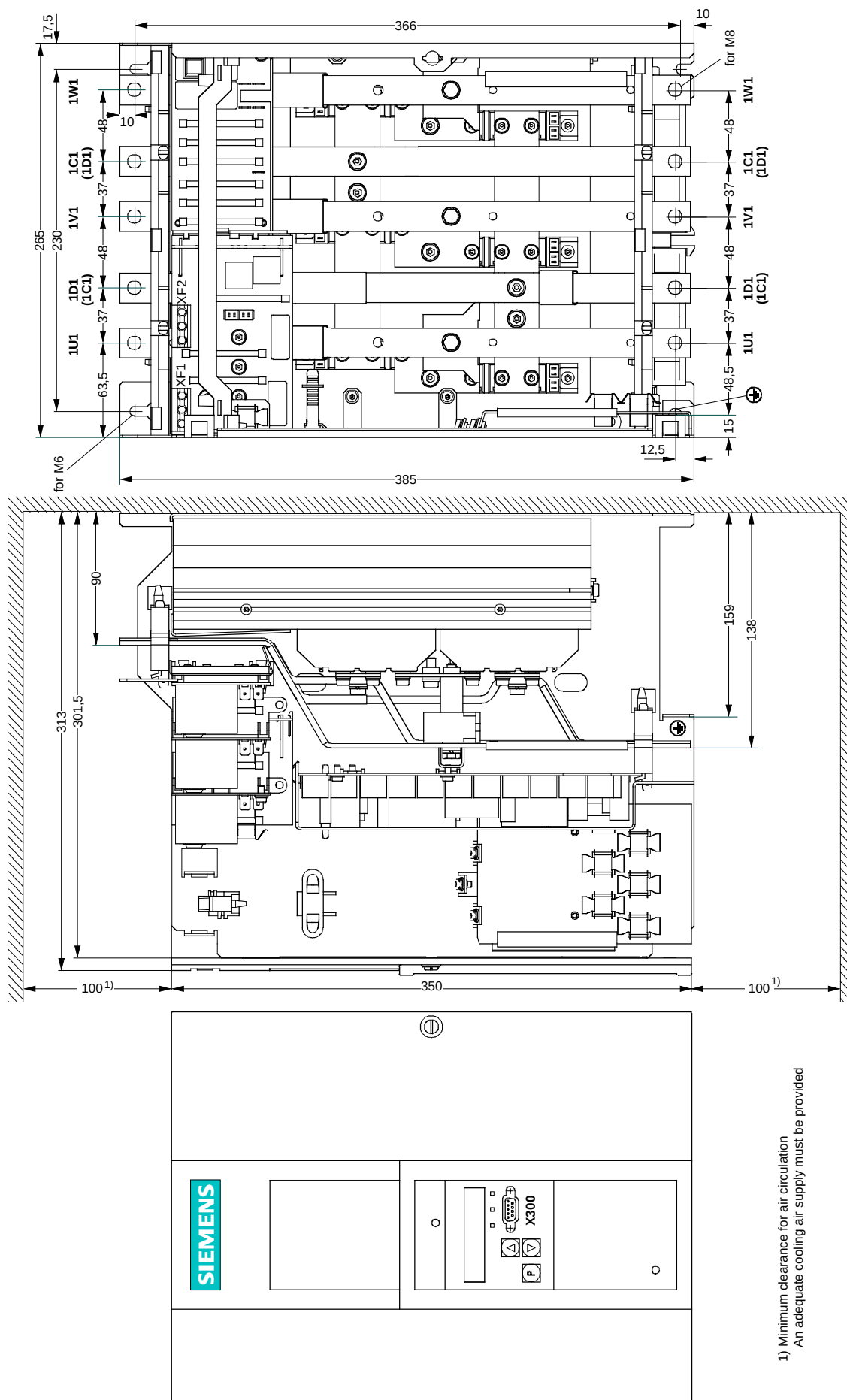


5.2.4 Converters: 850A, 1Q



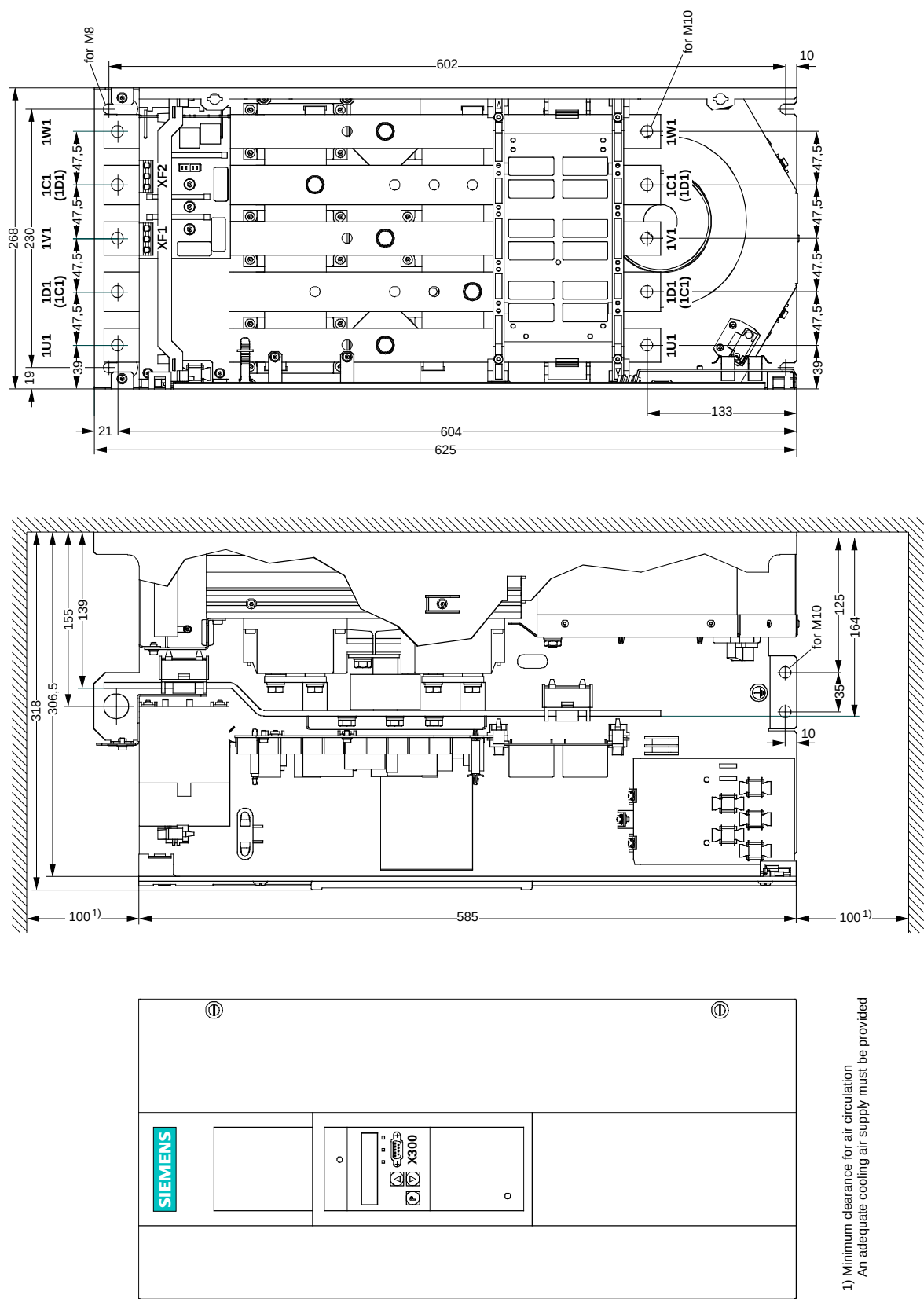
1) Minimum clearance for air circulation
An adequate cooling air supply must be provided

5.2.5 Converters: 60A to 125A, 4Q

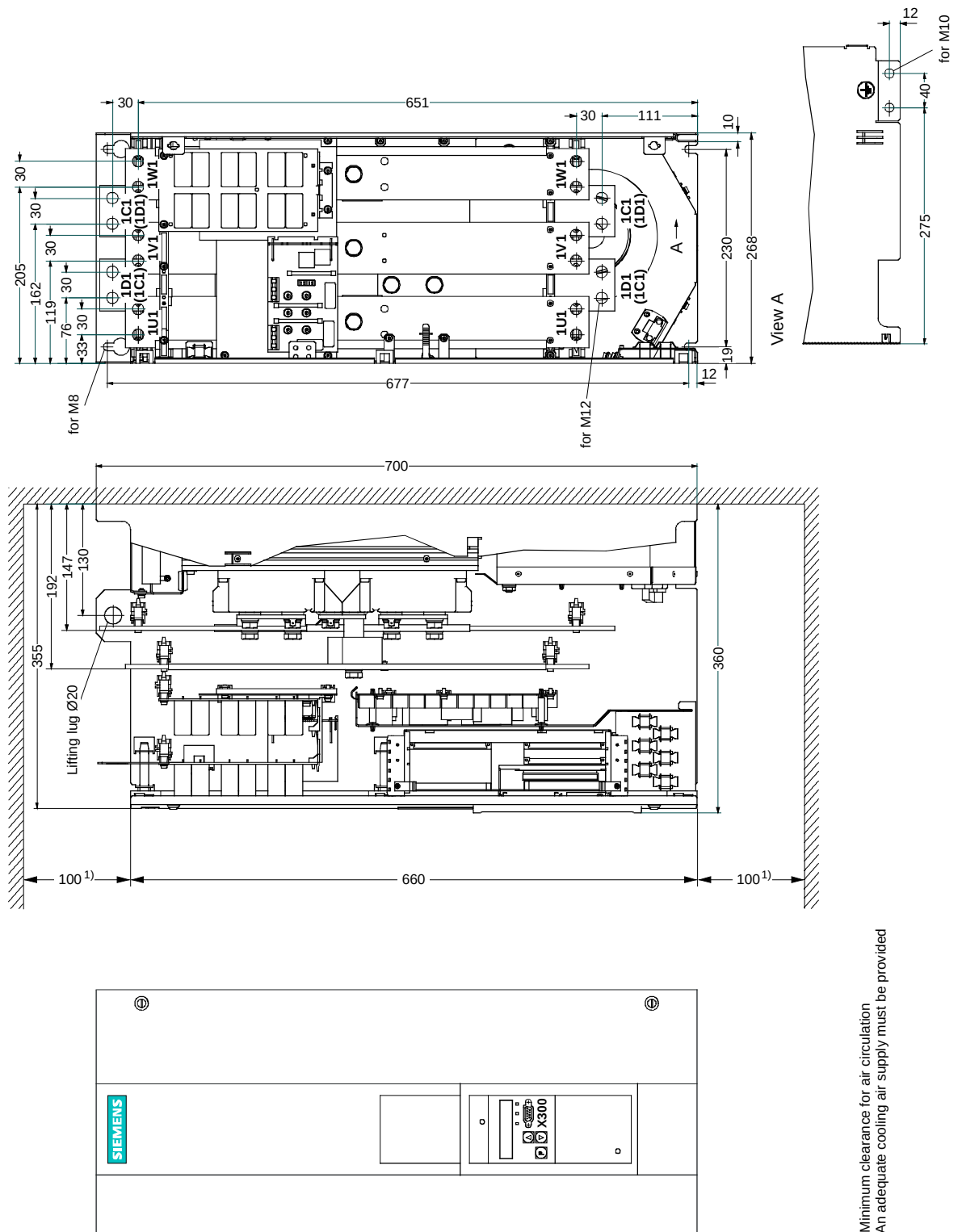


1) Minimum clearance for air circulation
An adequate cooling air supply must be provided

5.2.7 Converters: 450A to 600A, 4Q



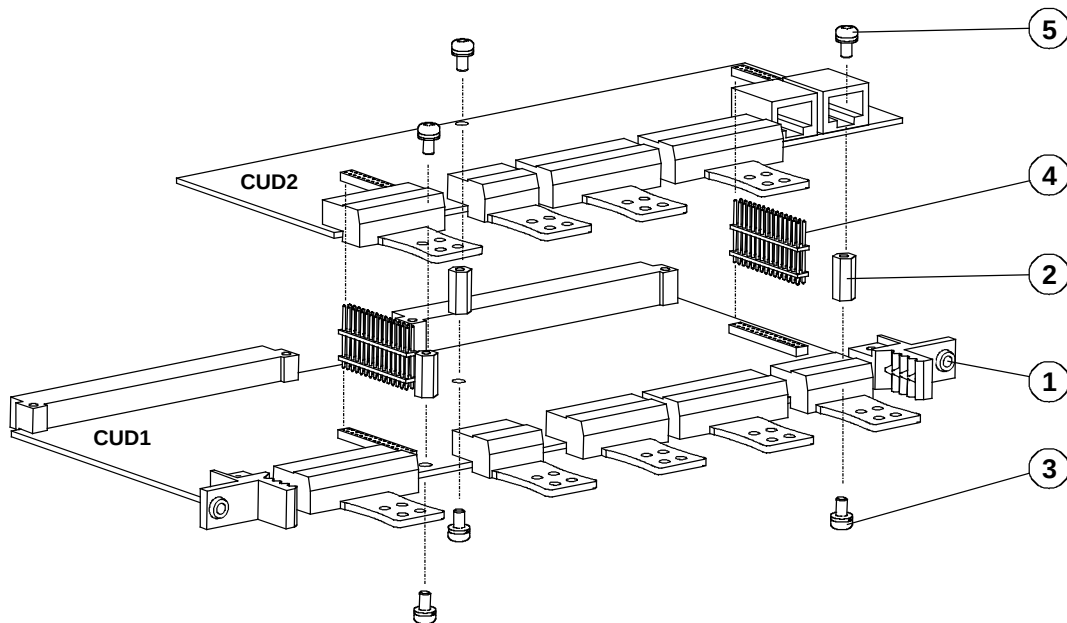
5.2.8 Converters: 850A, 4Q



1) Minimum clearance for air circulation
An adequate cooling air supply must be provided

5.3 Mounting options

5.3.1 Terminal expansion board CUD2



- Remove electronics board CUD1 from the electronics box by undoing the two fixing screws ①.
- Attach the 3 hexagon-head bolts supplied at position ② on the CUD1 electronics board with the screws and fixing elements ③ supplied and insert the two plug connectors ④. The two plug connectors must be positioned such that the short pin ends are inserted in the socket connectors of the CUD1 and the long pin ends in the socket connectors of the CUD2.
- Position board CUD2 in such a way that the two plug connectors ④ are properly contacted.
- Secure board CUD2 in position using the supplied screws and retaining elements ⑤.
- Insert electronics board CUD1 into electronics box and tighten up the two fixing screws ① again as instructed.

5.3.2 Optional supplementary boards



WARNING

Safe operation is dependent upon proper installation and start-up by qualified personnel under observance of all warnings contained in these operating instructions.



Boards must always be replaced by properly qualified personnel.

Boards must not be inserted or removed when the power supply is connected.

Failure to observe this warning can result in death, severe physical injury or substantial property damage.



CAUTION

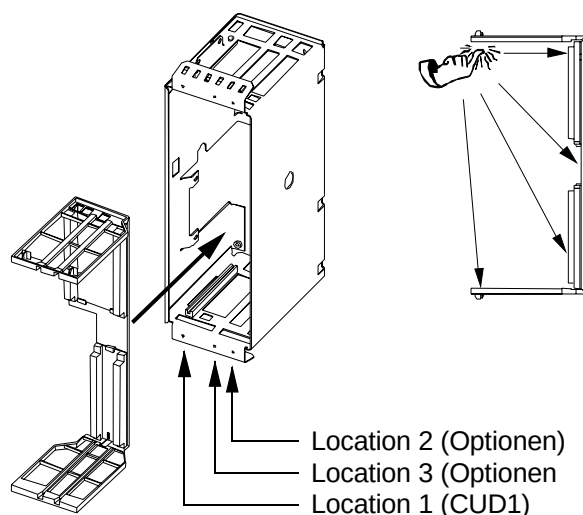
The boards contain ElectroStatic Discharge Sensitive Devices (ESDS). Before touching a board, make sure that your own body has been electrostatically discharged. The easiest way to do this is to touch a conductive, earthed object (e.g. bare metal part of cubicle) immediately beforehand.

5.3.2.1 Local bus adapter (LBA) for mounting optional supplementary boards

Optional supplementary boards can be installed only in conjunction with the LBA option. If an LBA is not already fitted in the SIMOREG converter, one must be installed in the electronics box to accommodate the optional board.

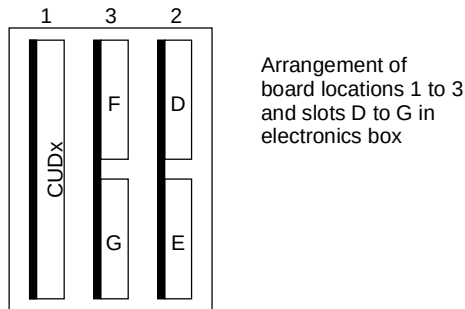
How to install an LBA local bus adapter in the electronics box:

- ◆ Undo the two fixing screws on the CUD1 board and pull board out by special handles.
- ◆ Push LBA bus extension into electronics box (see picture on right for position) until it engages.
- ◆ Insert CUD1 board in left-hand board location again and tighten fixing screws in handles.



5.3.2.2 Mounting of optional supplementary boards

Supplementary boards are inserted in the slots of the electronics box. Option **LBA** (local bus adapter, backplane wiring) is required to fit supplementary boards. The designations of board locations and slots are shown in the following diagram.



Supplementary boards may be inserted in any slots subject to one restriction, i.e. that board location 2 is filled before location 3.

NOTE

- ◆ A technology board must always be installed in board location 2 of the electronics box.
- ◆ If a technology board is used in conjunction with a communications board, then the communications board must be fitted in slot G (miniature-format boards, for example CBP and CBC) or slot 3 (large-format boards CB1 and CB2).
- ◆ It is not possible to operate boards EB1, EB2, SLB and SBP in conjunction with a technology board.
- ◆ The data of large-format boards are always output under slot E or slot G, i.e. the software version of a technology board, for example, is displayed in r060.003.
- ◆ In addition to the LBA, miniature-format boards (for example CBP and CBC) also require an **ADB** (adapter board, support board). Due to their very compact physical dimensions, these boards must be inserted in an ADB before they can be installed in the electronics box.
- ◆ No more than 2 supplementary boards of the same type may be installed in one converter (e.g. 2 EB1s).

For information about starting up supplementary boards, please refer to Section 7.7 "Starting up optional supplementary boards".